

## **ABSTRACT**

Disclosed herein is an integratable power amplifier having a variable bias voltage, in which a first bias controller detects the amplitude of an RF signal and outputs a DC signal varying with the detected amplitude based on the non-linearity of a rectification transistor. A second bias controller generates a bias voltage that optimizes amplification efficiency by adjusting the voltage of the DC signal received from the first bias controller through a source follower transistor being a complementary device. An amplifier transistor is activated by a driving voltage, amplifies the input signal according to the bias voltage received from the second bias controller, and outputs the amplified signal.